THE WEATHER OF THE MONTH.

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PRESSURE.

The distribution of mean atmospheric pressure is graphically shown on Chart VIII and the average values and departures from normal are shown in Tables I and V.

The most noticeable feature of the month was the extent to which changes in the distribution of atmospheric pressure dominated the weather conditions.

The winter type of high pressure that had persisted over the central valleys with prevailing northerly winds and corresponding cold weather over the entire region east of the Rocky Mountains during January and February, gave way rapidly during the current month. The area of high pressure was transferred far to the east, and marked decrease in mean pressure occurred over all districts except on the New England and south Pacific coasts.

Under normal conditions the pressure during March is relatively high over the South Atlantic and east Gulf States, over the upper Missouri and Red River of the North valleys, and along the middle and south Pacific coasts.

During March, 1905, the eastern high area covered the entire Atlantic coast districts, with averages from .05 to .14 inch above the normal. The high area, normal over the Dakotas, had practically disappeared, while on the Pacific coast the usual high area was much reduced in intensity, averaging from .05 to .10 inch below normal.

The normal decrease in pressure from February to March is remarkably uniform, only small areas showing less than .05 inch and nowhere does it exceed .10 inch decrease.

During the current month the changes in pressure assumed marked proportions, and over the entire region from the Mississippi Valley to the Rocky Mountains the changes were from .15 to .25 inch greater than the average.

There was a slight increase in pressure from the New England coast northeastward over the Canadian Maritime Provinces and into the North Atlantic Ocean, and along the immediate south Pacific coast,

As a sequence to the changes in the positions and intensities of the high areas and the consequent reduction of pressure to the northward, the prevailing wind directions were diverted from their normal north to west origin and consequent cold, to southerly and easterly winds with corresponding warmth.

TEMPERATURE OF THE AIR.

Unlike the preceding months of January and February, the temperatures during March, 1905, were above the normal over the entire country, except along the coast of Maine, about the eastern end of Lake Ontario, and at El Paso, Tex., and Phoenix, Ariz., where slight deficiencies were shown.

Under the influence of the prevailing warm easterly and southerly winds the isotherms of mean temperature, especially over the Missouri Valley region and extending into the Canadian Northwest Territories, were deflected far to the northward of their normal positions. Temperatures over this region averaged from 10° to 18° daily above the normal, while over the remainder of the country, except at a few scattered points, the temperature averaged from 2° to 8° above the normal.

It is doubtful if any preceding March within the history of weather observations showed thermal conditions so universally above the normal values, extending over practically the entire United States and northward into Canada as far as the field of observation extends.

During the first half of the month temperatures were low over New England, the Middle Atlantic States, and Lake region.

Over the South Atlantic and Gulf States, the Mississippi and Missouri valleys the period from the 10th to the 15th was generally colder than the average, while over the region between the Rocky and Sierra mountains the latter half of the month was generally colder than the average. On the Pacific coast the last five days were decidedly cold.

No severe cold waves occurred during the month, nor were the minimum temperature records broken at any point. The maximum temperatures over the region east of the Rocky Mountains occurred generally from the 27th to the 29th, and over the lower Lake region, New York, and Pennsylvania temperatures higher than for any preceding March were recorded. At Rochester and Buffalo, N. Y., the maximum temperatures for the month were 9° and 5°, respectively, higher than any previous record.

Over portions of northern Texas, Arkansas, Missouri, Iowa, South Dakota, Nebraska, Kansas, and Oklahoma the mean temperatures for the current month were the highest on record.

The average temperatures for the several geographic districts and the departures from the normal values are shown in the following table:

Average temperatures and departures from normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
		°	°	°	°
New England	8	32.8	+ 0.9	— 8.1	—2.7
Middle Atlantic	12	42.2	+ 3.0	— 8.8	—2.9
South Atlantic	10	57.4	+ 3.8	— 9.1	—3.0
Florida Peninsula*	8	68.6	+ 3.1	— 2.3	—0.8
East Gulf	9	61.9	+ 4.7	—11.2	—3.7
West Gulf	7	62.4	+ 4.6	— 9.9	—3.3
Ohio Valley and Tennessee	11	50.3	+ 6.6	—10.5	—3.5
Lower Lake	8	35.9	+ 3.6	— 8.8	—2.9
Upper Lake	10	30.1	+ 3.4	— 5.5	—1.8
North Dakota*	8	33.1	+13.1	+ 9.4	+3.1
Upper Mississippi Valley	11	43.4	+ 7.5	— 6.8	—2.3
Missouri Valley	11	45.2	+ 9.9	— 3.2	—1.1
Northern Slope	7	39.7	+ 7.9	+ 4.2	+1.4
Middle Slope	6	49.4	+ 7.4	— 5.9	—2.0
Southern Slope*	6	55.0	+ 4.6	—11.3	—3.8
Southern Plateau*	13	50.2	+ 1.3	+ 5.0	+1.7
Middle Plateau*	8	42.1	+ 3.9	+ 8.7	+2.9
Northern Plateau*	12	43.0	+ 5.6	+ 8.7	+2.9
North Pacific	7	48.9	+ 3.8	+ 8.1	+2.7
Middle Pacific	5	55.7	+ 2.8	+ 8.6	+2.9
South Pacific	4	58.5	+ 3.0	+10.8	—3.6

* Regular Weather Bureau and selected cooperative stations.

In Canada.—Prof. R. F. Stupart says:

* * * The positive departures in Manitoba and the Northwest Territories were phenomenal, ranging from 11° at Winnipeg and Calgary to 16° at Swift Current and Qu'Appelle and 18° at Battleford. In British Columbia the positive departure was from 5° to 8°.

PRECIPITATION.

The distribution of total monthly precipitation is shown on Chart III.

The precipitation was in excess of the normal along the east and south Florida coasts, and the Gulf coast from Alabama westward, over the greater portion of Texas and northward over Oklahoma, Kansas, Nebraska, and Colorado. Over portions of this region the excess above the normal amounted to over 2.0 inches.

Phenomenally heavy rains also occurred over southern California, Arizona, and New Mexico; at Los Angeles, Cal., the excess amounted to over 3.0 inches, and at Yuma, Ariz., the amount recorded, 3.33 inches, is the largest monthly fall recorded at that station since the beginning of observations in 1875.

Over New England, the Middle and South Atlantic States, the greater part of the east Gulf States, the Mississippi Valley, and the lower Lake region the precipitation was generally less than the average.

Over southwestern Virginia, western North Carolina, the northern and central parts of South Carolina, Georgia, and Alabama, eastern Mississippi, and eastern Tennessee the precipitation was markedly deficient, averaging from 2.0 to 4.0 inches below the normal.

While the rainfall was deficient in amount over practically all the section east of the Mississippi River the distribution during the month was such that no serious drought conditions existed. Light showers prevailed at frequent intervals throughout the month in the Lake regions, the upper Mississippi and Missouri valleys, and the northern and central slope regions.

Well defined periods of rainfall occurred over the Gulf and Atlantic coast States from the 6th to the 10th, and from the 15th to the end of the month light showers were frequent. Over the Ohio Valley heavy rains were general from the 6th to the 9th, and frequent light showers from the 18th to the end of the month. Over the southern Plateau showers were of nearly daily occurrence from the 1st to the 20th, and over the middle and northern Plateau, and north and middle Pacific regions, from the 11th to the end of the month.

In southern California rains were general from the 11th to the 19th and on the 29th and 30th.

The snowfall was generally light, except over the southern Rocky Mountain region, where much more than the average amounts occurred.

At the end of the month no snow remained on the ground except in northern Maine, the Upper Michigan Peninsula, and at high and protected points in the Rocky and Sierra mountains.

Average precipitation and departure from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		Inches.		*Inches.*	*Inches.*
New England	8	2.39	65	—1.3	—2.8
Middle Atlantic	12	3.06	79	—0.8	—1.6
South Atlantic	10	2.91	66	—1.5	—2.4
Florida Peninsula*	8	4.91	169	+2.0	0.0
East Gulf	9	4.45	72	—1.7	+0.9
West Gulf	7	3.40	100	0.0	—1.0
Ohio Valley and Tennessee	11	3.77	88	—0.5	—3.6
Lower Lake	8	1.33	53	—1.2	—2.2
Upper Lake	10	2.46	114	+0.3	—0.9
North Dakota*	8	0.65	77	—0.2	—0.7
Upper Mississippi Valley	11	1.78	78	—0.5	—1.5
Missouri Valley	11	2.12	116	+0.3	+0.2
Northern Slope	7	0.95	112	+0.1	—0.3
Middle Slope	6	2.71	207	+1.4	+1.5
Southern Slope*	6	3.11	308	+2.1	+2.3
Southern Plateau*	13	2.79	313	+1.9	+4.5
Middle Plateau*	8	2.01	153	+0.7	+0.7
Northern Plateau*	12	1.79	120	+0.3	—1.3
North Pacific	7	5.21	100	0.0	—4.3
Middle Pacific	5	5.00	132	+1.2	—1.0
South Pacific	4	3.80	173	+1.6	+3.2

*Regular Weather Bureau and selected cooperative stations.

In Canada.—Professor Stupart says:

The precipitation was above the average amount in many parts of Manitoba, and more locally over the lower mainland of British Columbia; elsewhere it was below the average. The positive departures nowhere appear to have exceeded one inch, whereas the negative departures were very marked in all districts. In Ontario, Toronto, was two inches below the average amount; Kingston and Ottawa, an inch and a half. In Quebec the deficiency was very generally an inch and three quarters, in the Maritime Provinces from two to nearly four inches, in many portions of the Northwest Territories three quarters of an inch, and in the interior of British Columbia about half an inch. The absence of snow was remarkable; no heavy snowstorms occurred anywhere, the most pronounced being the storm in Manitoba on the 28th, when the fall was from four to five inches, and the storm in Alberta on the 30th, when four inches were recorded locally.

At the close of the month over the whole of the Dominion the ground was nearly bare of snow, except in isolated localities, these being more especially in a few parts of Quebec and the Maritime Provinces. There was also snow still in the woods in parts of Ontario. In British Columbia little or no snow was reported on the mountains.

HUMIDITY.

The month as a whole was above the average as to relative humidity, most districts showing an excess above the normal. Over the southern Rocky Mountain region, Arizona, and southern California the average was far exceeded.

The averages by districts appear in the following table:

Average relative humidity and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
	%			%	
New England	73	— 2	Missouri Valley	70	— 2
Middle Atlantic	74	+ 2	Northern Slope	68	+ 1
South Atlantic	76	+ 1	Middle Slope	68	+ 8
Florida Peninsula	80	+ 3	Southern Slope	66	+11
East Gulf	75	+ 2	Southern Plateau	61	+22
West Gulf	75	+ 3	Middle Plateau	63	+ 5
Ohio Valley and Tennessee	69	— 2	Northern Plateau	65	— 1
Lower Lake	77	+ 1	North Pacific	79	+ 1
Upper Lake	82	+ 3	Middle Pacific	75	+ 1
North Dakota	74	— 4	South Pacific	75	+ 4
Upper Mississippi Valley	77	+ 4			

CLEAR SKY AND CLOUDINESS.

With the increase in relative humidity the average cloudiness was also augmented, and most districts showed material increases in both the average amount of clouds and days with rainfall.

The distribution of clear sky is graphically shown on Chart IV, and the numerical values of average daylight cloudiness, both for individual stations and by geographic districts, appear in Table I.

The average for the various districts, with departures from the normal, are shown in the following table:

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	4.9	— 0.7	Missouri Valley	6.3	+ 0.7
Middle Atlantic	5.5	0.0	Northern Slope	6.0	+ 0.7
South Atlantic	4.8	+ 0.1	Middle Slope	6.7	+ 2.3
Florida Peninsula	4.7	+ 0.7	Southern Slope	5.1	+ 0.7
East Gulf	5.1	+ 0.4	Southern Plateau	5.1	+ 2.1
West Gulf	6.1	+ 0.9	Middle Plateau	5.6	+ 0.3
Ohio Valley and Tennessee	5.5	— 0.4	Northern Plateau	6.0	— 0.3
Lower Lake	6.0	— 0.4	North Pacific	7.0	+ 0.3
Upper Lake	6.3	+ 0.4	Middle Pacific	5.5	+ 0.5
North Dakota	6.4	+ 0.9	South Pacific	5.3	+ 0.8
Upper Mississippi Valley	6.4	+ 0.9			

WIND.

The winds during the month were generally light in character, and, except on the immediate Pacific coast and at a few exposed points, did not attain velocities as high as 50 miles per hour.

The maximum wind velocity at each Weather Bureau station for a period of five minutes is given in Table I, which also gives the altitude of Weather Bureau anemometers above ground.

Following are the velocities of 50 miles and over per hour registered during the month:

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Carson City, Nev.	20	56	sw.	North Head, Wash	13	58	se.
Chicago, Ill.	27	52	sw.	Do	19	52	s.
Do	28	54	s.	Do	20	78	se.
Columbus, Ohio	26	52	sw.	Do	22	60	se.
Do	29	52	sw.	Do	23	73	se.
Devils Lake, N. Dak.	28	50	n.	Do	24	72	s.
El Paso, Tex	27	53	w.	Do	27	62	se.
Lexington, Ky	29	60	sw.	Do	28	54	s.
Modena, Utah	26	50	w.	Do	31	60	se.
Mount Tamalpais, Cal.	12	75	se.	Sioux City, Iowa	27	52	s.
Do	16	54	nw.	Tatoosh Island, Wash.	1	50	s.
Do	17	59	nw.	Do	7	50	ne.
Do	18	60	sw.	Do	8	52	e.
Do	19	58	sw.	Do	9	50	e.
Do	26	62	nw.	Do	11	60	e.
Do	27	63	nw.	Do	12	66	e.
Do	28	54	sw.	Do	13	64	e.
Do	29	50	nw.	Do	24	60	sw.
Do	30	58	w.	Do	25	56	sw.
Mount Weather, Va.	4	58	nw.				